

APPLICATION FOR PATENT

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Title: Interlocking receptacles

FIELD AND BACKGROUND OF THE INVENTION

5 The present invention relates to a interlocking receptacles and, in particular, it concerns interlocking receptacles for storing and pouring liquids.

 Reference is now made to Fig. 1, which is an isometric view of a water receptacle system **10** that is constructed and operable in accordance the prior art. By way of introduction, water is often stored in an open storage
10 receptacle **12**, for example a jug or cup, close to ones bed at night for washing ones hands the next morning. This is a common requirement where someone wants to wash his or her hands immediately upon getting up in the morning, for example, as part of a religious practice. In the morning the water is poured from storage receptacle **12** over ones hands into a receiving receptacle **14**
15 having a larger volume than storage receptacle **12**. However, it is common for storage receptacle **12** to get accidentally knocked during the night, spilling the water therefrom. Reference is now made to Fig. 2 and Fig. 3. Fig. 2 is an isometric view of water receptacle system **10** of Fig. 1 in a first storage configuration. Fig. 3 is an isometric view of water receptacle system **10** of Fig.
20 1 in a second storage configuration. Additionally, there is sometimes a need to keep the water covered at night by either placing receiving receptacle **14** in an upright orientation (Fig. 2) or in an inverted orientation (Fig. 3) on top of

storage receptacle 12, for example, to prevent contamination by poisonous animals or for religious purposes. Therefore, receiving receptacle 14 is commonly used a lid for storage receptacle 12, making the likelihood of spilling the contents of storage receptacle 12 even greater.

5 There is therefore a need for a system to prevent the water stored in a storage receptacle from spilling at night as well as providing a lid for the storage receptacle. Additionally, there is a need to store water and other liquids for other reasons with a receiving receptacle, for example, but not limited to medical and industrial purposes.

10 SUMMARY OF THE INVENTION

 The present invention is an interlocking liquid receptacle system and method of operation thereof.

 According to the teachings of the present invention there is provided a liquid receptacle system for storing and pouring liquid, comprising: (a) a first
15 storage receptacle configured for storing the liquid therein and pouring liquid therefrom, the first storage receptacle having a first storage volume; and (b) a receiving receptacle having a second storage volume which is greater than the first storage volume; the receiving receptacle being configured for receiving the liquid poured from the first storage receptacle, the receiving receptacle having
20 a surface configured to cover the first storage receptacle, the first storage receptacle and the surface of the receiving receptacle having a first set of

complementary interlocking features configured for preventing substantial spillage of the liquid stored in the first storage receptacle.

According to a further feature of the present invention, there is also provided a second storage receptacle configured for storing a second liquid
5 therein and pouring therefrom into the receiving receptacle, the second storage receptacle having a third storage volume, a sum of the first storage volume and the third storage volume being less than the second storage volume, the second storage receptacle and the receiving receptacle having a second set of complementary interlocking features configured for preventing substantial
10 spillage of the second liquid stored in the second storage receptacle.

According to a further feature of the present invention, the surface is an inner surface of the receiving receptacle.

According to a further feature of the present invention, the complementary interlocking features include a first screw thread disposed on
15 the first storage receptacle and a second screw thread disposed on the receiving receptacle.

According to a further feature of the present invention, the first storage receptacle has a handle disposed thereon configured for convenient pouring of the liquid from the first storage receptacle.

20 According to a further feature of the present invention, the first storage receptacle has two handles disposed thereon configured for convenient pouring of the liquid from the first storage receptacle.

According to a further feature of the present invention: (a) the first storage volume is greater than half a liter; and (b) the receiving receptacle has an opening having a minimum dimension of at least 18 cm.

According to the teachings of the present invention there is also
5 provided a method for storing and pouring a liquid, comprising the steps of: (a) disposing the liquid into a storage receptacle; (b) interlocking the storage receptacle with a receiving receptacle in order to prevent substantial spillage of the liquid from the storage receptacle; (c) disconnecting the storage receptacle from the receiving receptacle; and (d) pouring the liquid from the storage
10 receptacle into the receiving receptacle.

According to a further feature of the present invention: (a) the liquid is water; and (b) the step of pouring is performed by pouring the water from the storage receptacle over a hand into the receiving receptacle.

According to a further feature of the present invention, the step of
15 interlocking is performed by screwing together the storage receptacle and the receiving receptacle.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is herein described, by way of example only, with reference to the accompanying drawings, wherein:

20 Fig. 1 is an isometric view of a water receptacle system that is constructed and operable in accordance the prior art;

Fig. 2 is an isometric view of the water receptacle system of Fig. 1 in a first storage configuration;

Fig. 3 is an isometric view of the water receptacle system of Fig. 1 in a second storage configuration;

5 Fig. 4 is an isometric view of a water storage system that is constructed and operable in accordance with a preferred embodiment of the invention;

Fig. 5 is a top view of the receiving receptacle of the water storage system of Fig. 4;

Fig. 6 is a cross-sectional view along line A-A of Fig. 5;

10 Fig. 7 is an axial cross-sectional view showing the storage receptacle and the receiving receptacle of Fig. 4 in an interlocked configuration; and

Fig. 8 is an axial cross-sectional view showing a system having two storage receptacles and one receiving receptacle that is constructed and operable in accordance with an alternate embodiment of the invention.

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DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is a liquid storage system and method of operation thereof.

The principles and operation of a liquid storage system according to the present invention may be better understood with reference to the drawings and the accompanying description.

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Reference is now made to Figs. 4 to 7 which are various views of a storage receptacle **104** and a receiving receptacle **102** a water storage system **100** that is constructed and operable in accordance with a preferred embodiment of the invention. Fig. 4 is an isometric view of water storage system **100**. Fig. 5 is a top view of receiving receptacle **102** of water storage system **100** of Fig. 4. Fig. 6 is a cross-sectional view along line A-A of Fig. 5. Fig. 7 is an axial cross-sectional view showing storage receptacle **104** and receiving receptacle **102** of Fig. 4 in an interlocked configuration. Water storage system **100** is a system for storing and pouring water for washing hands. Water storage system **100** includes receiving receptacle **102** and storage receptacle **104**.

Storage receptacle **104** is configured for storing water therein and pouring water therefrom over hands into receiving receptacle **102**. Storage receptacle **104** has a storage volume generally between half a liter and 2 liters, preferably 1 liter. The storage volume is defined as the maximum volume of water that is storable in storage receptacle **104**. Storage receptacle **104** is typically a hollow cylinder which is open at one end. Storage receptacle **104** typically has a height between 7 cm and 25 cm, preferably about 12 cm. Storage receptacle **104** typically has a diameter of between 7cm and 20 cm, preferably about 12cm. Storage receptacle **104** has two handles **106** disposed thereon configured for convenient pouring of water from storage receptacle **104**. Storage receptacle **104** including handles **106** are typically integrally formed from molded plastic. However, it will be appreciated by

those ordinarily skilled in the art that storage receptacle 104 may be formed from metal, china or other suitable materials.

Receiving receptacle 102 is configured for receiving water poured over the hands from storage receptacle 104. Receiving receptacle 102 has a storage
5 volume defined as the maximum volume of water that is storable in receiving receptacle 102. The storage volume of receiving receptacle 102 is greater than the storage volume of storage receptacle 104. The storage volume of receiving receptacle 102 is typically between 2 liters and 8 liters. Receiving receptacle 102 has an opening 110 having a typically diameter (being the
10 minimum dimension of opening 110) of between 18 cm and 40 cm, preferably 30 cm. Receiving receptacle 102 typically has a height of between 10 cm and 25 cm, preferably 13 cm. It should be noted that generally the height of receiving receptacle 102 is greater than the height of storage receptacle 104. However, it will be appreciated by those ordinarily skilled in the art that the
15 height of storage receptacle 104 can be greater than the height of receiving receptacle 102. Receiving receptacle 102 has an inside base surface 108 which is configured to cover storage receptacle 104 while water is being stored in storage receptacle 104. Inside base surface 108 is held against the rim of storage receptacle 104 by complementary interlocking features 112, as will be
20 described in more detail below. It will be appreciated by those ordinarily skilled in the art that complementary interlocking features 112 may be disposed on any other surface of receiving receptacle 102 including the outside base surface of receiving receptacle 102. Receiving receptacle 102 is typically

formed from molded plastic. However, it will be appreciated by those ordinarily skilled in the art that receiving receptacle **102** may be formed from metal or china or another suitable material.

Storage receptacle **104** and inside base surface **108** of receiving
5 receptacle **102** have complementary interlocking features **112** configured for:
(i) retaining inside base surface **108** against the rim of storage receptacle **104** in
order to cover storage receptacle **104**; and (ii) preventing substantial spillage of
water stored in storage receptacle **104**. Complementary interlocking
features **112** are typically configured to prevent spillage of any of the water
10 stored in storage receptacle **104**. However, the term “preventing substantial
spillage” is defined herein as preventing a possible loss of water greater than
half the water storage volume in one day. Complementary interlocking
features **112** include a screw thread **114** disposed on the outside of storage
receptacle **104** close to the rim of storage receptacle **104** and a screw
15 thread **116** disposed on receiving receptacle **102**. It will be appreciated by those
ordinarily skilled in the art that screw thread **114** may be disposed on the inside
surface of storage receptacle **104** close to the rim of storage receptacle **104** and
screw thread **116** may be configured to engage screw thread **114** as required.
Screw thread **114** and screw thread **116** are configured such that screw
20 thread **114** of storage receptacle **104** is screwed onto screw thread **116** of inside
base surface **108** of receiving receptacle **102**. Screw thread **114** and screw
thread **116** are typically formed from molded plastic. Screw thread **114** is
typically integrally formed with storage receptacle **104** and screw thread **116** is

typically integrally formed with receiving receptacle **102**. However, it will be appreciated by those ordinarily skilled in the art that screw thread **114** and screw thread **116** may be formed from other materials such as metal. Additionally, it will be appreciated by those ordinarily skilled in the art that

5 screw thread **114** and screw thread **116** may be formed as separate elements from storage receptacle **104** and receiving receptacle **102**, respectively. Screw thread **114** and screw thread **116** are then mechanically connected to storage receptacle **104** and receiving receptacle **102**, respectively, using suitable connection techniques. When screw thread **114** and screw thread **116** and

10 receiving receptacle **102** and storage receptacle **104** are formed from plastic no additional water seal is generally needed to prevent spillage of water from storage receptacle **104**. However, if all the elements of water storage system **100** are not formed from plastic, an additional rubber seal (not shown) either disposed on the rim of storage receptacle **104** or around screw thread **116**

15 on inside base surface **108** may be required to provide additional anti-spill protection. It will be appreciated by those ordinarily skilled in the art that complementary interlocking features **112** may be implemented in a variety of ways, for example, but not limited to, having a rubber lined groove disposed on/in inside base surface **108** into which the top rim of storage receptacle **104**

20 makes a pressure fit.

Water storage system **100** is generally used as follows. First, typically in the evening, water is disposed in storage receptacle **104**. Storage receptacle **104** is then interlocked with receiving receptacle **102** by screwing together storage

receptacle 104 and receiving receptacle 102. In the morning, storage receptacle 104 is unscrewed from receiving receptacle 102, thereby disconnecting receiving receptacle 102 and storage receptacle 104. Then, water is poured from storage receptacle 104 over the hands into receiving
5 receptacle 102.

It will be appreciated by those ordinarily skilled in the art that storage system 100 may be used for storage and receiving of other liquids, for example, but not limited to liquids for medical purposes. For example, storage system 100 may form part of a first aid kit, wherein a disinfecting liquid may
10 be stored in storage receptacle 104 for later pouring into receiving receptacle 102 for disinfecting a hand or an instrument.

Fig. 8 is an axial cross-sectional view showing a system 118 having two storage receptacles 120 and a receiving receptacle 122 that is constructed and operable in accordance with an alternate embodiment of the invention.
15 System 118 is the same as water storage system 100 except that system 118 has two or more storage receptacles 120. The combined storage volume of storage receptacles 120 is less than the storage volume of receiving receptacle 122. It will be appreciated by those ordinarily skilled in the art that the dimensions and design of storage receptacles 120 and receiving receptacle 122 depends on the
20 intended use of system 118. It will be appreciated by those ordinarily skilled in the art that storage receptacles 120 can store the same liquid or different liquids. It will be appreciated by those ordinarily skilled in the art that system 118 may be used for medical or other purposes, for example, but not

limited to, (i) a disposal travel wash kit including detergents stored in storage receptacles 120 and receiving receptacle 122 being used as a washing basin, (ii) a home hair coloring kit including dyes stored in storage receptacles 120 and receiving receptacle 122 being used as a mixing bowl and (iii) a cake kit
5 including cake ingredients stored in storage receptacles 120 and receiving receptacle 122 being used as a mixing bowl.

It will be appreciated by persons skilled in the art that the present invention is not limited to what has been particularly shown and described hereinabove. Rather, the scope of the present invention includes both
10 combinations and sub-combinations of the various features described hereinabove, as well as variations and modifications thereof that are not in the prior art which would occur to persons skilled in the art upon reading the foregoing description.